

What is claimed is:

1. A method for modifying a standard model based on measured data, comprising the steps of:

modifying the standard model prepared in advance of modification in accordance with the measured data and

deciding whether to further modify the standard model or to finish the modification of the standard model based on integrated evaluation of two or more functions selected from a first function relating to a distance between the standard model and the measured data, a second function relating to a distance between a characteristic point defined on the standard model and a characteristic point specified on the measured data and corresponding to the characteristic point defined on the standard model and a third function relating to a distance between an outline defined on the standard model and an outline specified on the measured data and corresponding to the outline on the standard model.

2. The method according to claim 1, wherein the first function, the second function and the third function are energy functions,

the integrated evaluation is performed by evaluating a total value of two or more energy functions and

the modification is completed and a shape model is produced when it is judged that the total value is converged.

3. The method according to claim 2, wherein an energy function is defined as a fourth function for avoiding excessive modification of the standard model, the integrated evaluation is performed by evaluating

a total value of the four functions and

the modification is completed and a shape model is produced when it is judged that the total value is converged.

4. The method according to claim 1, wherein weight in the integrated evaluation is determined based on:

the measured data when the first function is used for the integrated evaluation;

the characteristic point specified on the measured data when the second function is used for the integrated evaluation; or

the outline specified on the measured data when the third function is used for the integrated evaluation.

5. A method for modifying a standard model on which a plurality of control points are defined based on measured data, comprising the steps of:

modifying the standard model which is prepared in advance of modification based on the measured data, wherein the standard model is modified by manipulating control points on the standard model and

deciding whether to further modify the standard model or to finish the modification of the standard model based on integrated evaluation of a first function relating to a distance between whole or a part of the standard model to be modified based on a first control points of the plurality of control points and a part of the measured data corresponding to the whole or a part of the standard model and a second function relating to a distance from a part of the standard model to be modified



corresponding lines, comprising:

- a measurement portion for obtaining the measured data of an object by three-dimensional measurement;
- a first modifying portion for modifying the first standard model in accordance with the measured data and
- a second modifying portion for modifying the second standard model so as to be joined to the first standard model by using position information of the corresponding points or corresponding lines of the modified first standard model.

11. A method for modifying a standard model based on measured data, comprising the steps of:

dividing the standard model into a first standard model and a second standard model which are related to each other by means of corresponding points or corresponding lines;

modifying the first standard model based on the measured data and

modifying the second standard model based on the corresponding points or the corresponding lines of the modified first standard model.

12. A device for modifying a standard model based on measured data, comprising:

a dividing portion for dividing the standard model into a first standard model and a second standard model which are related to each other by means of corresponding points or corresponding lines;

a first modifying portion for modifying the first standard model based on the measured data and

a second modifying portion for modifying the second

standard model based on the corresponding points or the corresponding lines of the modified first standard model.

13. A method for modifying a standard model based on measured data, comprising the steps of:

modifying a low-resolution standard model which is a model corresponding to the standard model and having a lower resolution than that of the standard model in accordance with the measured data and

modifying the standard model based on the modification of the low-resolution standard model.

14. The method according to claim 13, wherein the standard model and the low-resolution standard model are related to each other by means of a corresponding part provided in each of the standard model and the low-resolution standard model and

the standard model is modified by, after modifying the low-resolution standard model, changing a position of the corresponding part of the standard model in accordance with a position of the corresponding part of the modified low-resolution standard model.

15. The method according to claim 13, wherein the standard model comprises a plurality of construction points, and the low-resolution standard model is prepared by reducing a number of construction points of the standard model.

16. A method for modifying a standard model having a plurality of control points defined thereon, wherein the standard model is modified by manipulating the control points, comprising the steps of:

modifying the standard model to be conformed to the

measured data by changing positions of a part of the plurality of control points defined on the standard model and

modifying the modified standard model in order to have the standard model more conformed to the measured data by changing positions of a part of the plurality of control points whose number is larger than that of the part of the control points which have been used in the previous modification or by changing whole the plurality of control points.

17. A method for generating a three-dimensional model of an object, comprising the steps of:

preparing measured data and a standard model of the object; and

modifying the standard model in accordance with the measured data, wherein

it is decided whether to further modify the standard model or to finish the modification of the standard model based on integrated evaluation of two or more functions selected from a first function relating to a distance between the standard model and the measured data, a second function relating to a distance between a characteristic point defined on the standard model and a characteristic point specified on the measured data and corresponding to the characteristic point defined on the standard model and a third function relating to a distance between an outline defined on the standard model and an outline specified on the measured data and corresponding to the outline on the standard model.